

**INDIVIDUAL INVENTORY FORM**

**NHDHR INVENTORY # CON0288**

**Name, Location, Ownership**

1. Historic name Concord Gas Light Co. Gasholder Ho.
2. District or area 19<sup>th</sup> C. Manufacturing/South Main
3. Street and number Gas Street
4. City or town Concord
5. County Merrimack
6. Current owner Energynorth Natural Gas Inc.

**Function or Use**

7. Current use(s) Not in use
8. Historic use(s) Industry: Energy facility

**Architectural Information**

9. Style Italianate
10. Architect/builder Deily & Fowler of Laurel Iron Works
11. Source HAER Report, 1982
12. Construction date 1888
13. Source building stone
14. Alterations, with dates 1952- taken out of use;  
date unknown – demolition of other buildings  
in complex
15. Moved? no ☐ yes ☒ date: \_\_\_\_\_

**Exterior Features**

16. Foundation Concrete
17. Cladding Brick
18. Roof material Slate
19. Chimney material NA
20. Type of roof Conical
21. Chimney location NA
22. Number of stories 1
23. Entry location west and south
24. Windows double-hung 4/4  
Replacement? no ☒ yes ☐ date: \_\_\_\_\_

**Site Features**

25. Setting mixed use neighborhood
26. Outbuildings none
27. Landscape features fence, graded knoll



35. Photo #1 Direction: north
36. Date 2/19/2012
37. Reference #: CON0288 1

28. Acreage 2.74 acres
29. Tax map/parcel # 26/1/6
30. UTM reference Z19 4785448N 294333E
31. USGS quadrangle and scale Concord 1:24000
- Form prepared by**
32. Name Lisa Mausolf
33. Organization Concord Heritage Commission
34. Date of survey Feb. 19, 2012

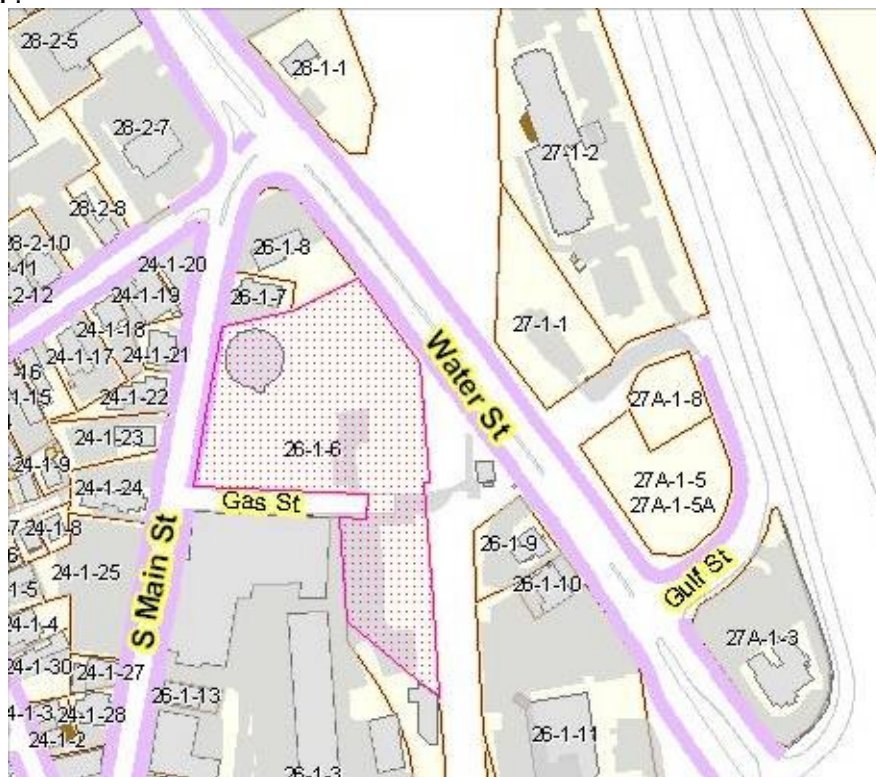
**INDIVIDUAL INVENTORY FORM**

**NHDHR INVENTORY # CON0288**

**39. LOCATION MAP:**



**40. PROPERTY MAP:**





## INDIVIDUAL INVENTORY FORM

NHDHR INVENTORY # CON0288

### 41. Historical Background and Role in the City's Development:

The Concord Gas Light Company was chartered in 1850 to meet Concord's need for gas illumination. The process of manufacturing gas from coal was perfected in the early years of the Industrial Revolution but it was not until the 1830s that gas lighting had been accepted as an improved form of lighting for industrial, commercial and public locations, once problems with developing satisfactory distribution piping and lighting fixtures had been resolved.

The corporation held its first meeting until August 1852 and soon after the Company acquired land from the Concord Railroad Company and constructed a gas works on South Main Street. Over the years the works were periodically enlarged as demand increased. However by the late 1880s the system's existing storage facilities - two gasholders with capacities of 16,000 cubic feet each adjacent to the gashouse, a third at the end of the distribution line at St. Paul's School and a fourth near the business district - had a capacity of 80,000 cubic feet but were not sufficient during days of heavy demand.

In 1887 the Gas Company purchased another parcel of land adjacent to the north boundary of the existing gasworks in order to construct a new gasholder. Work on the new structure began on April 9, 1888 and was completed in December of that year. The tank and circular brick building were designed by Deily & Fowler of Laurel Iron Works, Philadelphia and built by W.C. Whyte of New York City. The Laurel Iron Works assembled the holder. Among the local contractors assisting in construction were E.B. Hutchinson (carpentry), W.M. Darrah (slate roof) and Samuel Holt (brick manufacture).

As constructed, the masonry tank was 82.5' in diameter and 24 feet deep. It took 800,000 gallons of water to fill the tank. The bottom consisted of 12 inches of concrete and the walls were laid in cement. The walls were tapered and measured 34 inches thick at the base and 30 inches at the top. Wrought iron bands were placed around the wall at two and seven feet below ground level. The single lift holder measured 80 feet in diameter and 24 feet high and was constructed of iron plates riveted together. It weighed 80,000 pounds. Guiding the holder in its ascent and descent were guide rails and sheaves. The brick building utilized 550,000 bricks and 1,400 casks of cement. The building protected the water in the tank from freezing and the cupola enabled any leaking gas to escape and disperse.

In 1893 the process for manufacturing gas was modernized and the gasworks was converted from the traditional burning of coal in retorts to a new carbureted water gas process. The 1888 gasholder provided adequate reserve storage for many years. Another holder was not built until 1921 when a steel telescoping gasholder with a capacity of 500,000 cubic feet was constructed. At that time the 1888 holder changed from being the storage holder for distribution into the gas mains to functioning as the relief holder for raw gas from the gashouse.

In 1952 the Concord Gas Company converted its operation from manufacturing gas to hooking up to the network of natural gas pipelines that brought gas from the southwestern gas fields. Because there was no longer a need to store gas, the gasholder house was put out of service.

In 1982 the gasholder and the rest of the complex including the oil tank holder, exhauster and retort building was recorded for the Historic American Engineering Record by a team of about 25 volunteers. The completed drawings, photographs and report (HAER NH-7) are available online at <http://memory.loc.gov>. Although in the late 19<sup>th</sup> century virtually all cities had one or more gasworks that manufactured gas from coal, the Concord gasholder house is reportedly the only enclosed gasholder house in the United States to have survived intact (Taylor 1982).

In the years since the complex was recorded, the accessory buildings including the regulator houses, boiler house, former retort house, former purifying house and oil tanks have all been removed. The 1921 gasholder was demolished March 30, 1989.

### 42. Applicable NHDHR Historic Contexts:

Gas Manufacture in New Hampshire

**INDIVIDUAL INVENTORY FORM**

**NHDHR INVENTORY # CON0288**

**43. Architectural Description and Comparative Evaluation:**

Set on a low grassy knoll, the circular brick gasholder house building measures 86 feet in diameter and stands 80 feet high. When it was in use it was capable of holding 125,000 cubic feet of gas. The brick façade is divided into sixteen equal bays which are articulated by simple brick pilaster wall buttresses with stone-topped weatherings. Between the pilasters there is a corbelled brick band with an additional continuous corbelled cornice wrapping around the entire building just below the slate-covered conical roof. All but two of the bays are punctuated by a narrow arched double-hung window with stone sills. The openings containing 4/4 sash and are capped by a round arched hood mold in brick. Two porches (valve houses) project from the two remaining bays. That to the south is capped by a low hip roof and has a round-arched doorway on its south elevation with a single round-arched window the adjacent elevations. Originally the gas came into the holder on this side. On the west side of the building, set close to the South Main Street sidewalk, is a second projection where the gas exited the valve house and entered the city distribution mains. This valve house is capped by a gable roof with a stone inscribed '1888' in the brick pediment. There is a rectangular door opening on the south side of the projection and windows on the other two elevations. The building is capped by an octagonal wooden cupola sheathed in horizontal boards with arched windows with 4/4 sash and paired brackets supporting its overhanging eaves. A copper weathervane projects from the top of the cupola.

This is believed to be the only surviving gasholder house in the United States with its gas holder intact (Taylor 1982).

**44. National or State Register Criteria Statement of Significance:**

The Gasholder House was previously determined eligible for the National Register of Historic Places in 1993 as part of a Concord Gas Company/Holt Brothers Industrial Historic District. The integrity of the structure has not lessened since that time.

Criterion A: This property is eligible for the National Register under Criterion A. The gasworks was located here in the 1850s in order to meet the community's need for gas illumination. This building reflects the growing demand in the late 19<sup>th</sup> century as population and industries increased.

Criterion B: This property is not eligible for either the National or State Registers under Criterion B. The property lacks long-term associations with any one person known to have made highly significant contributions to history.

Criterion C: This property is eligible for the National Register under Criterion C. It is a unique example of a late 19<sup>th</sup> century structure designed for the production and distribution of gas. It is believed to be the only surviving gasholder house in the country which retains its gas holder intact.

**45. Period of Significance:** 1888; 1888-1952

**46. Statement of Integrity:**

The Gasholder House retains a high level of integrity of location, design, setting, materials, workmanship, feeling and association. Its integrity of setting and feeling is lessened only by the loss of the other subsidiary buildings (oil tank holder, exhaustor, retort building and 1922 holder) but this does not diminish the significance of this unique extant example of late 19<sup>th</sup> century industrial architecture.

**47. Boundary Discussion:**

The eligible boundary consists of the current tax parcel.

**INDIVIDUAL INVENTORY FORM**

**NHDHR INVENTORY # CON0288**

**48. Bibliography and/or References:**

Concord City Directories, various dates.

Hengen, Elizabeth Durfee. *An Historic and Architectural Overview & Historic Preservation Assessment of Concord, NH.*, prepared for the Concord Heritage Commission, 1996.

Hengen, Elizabeth Durfee and Gary Samson. *Capital Views, A Photographic History of Concord, New Hampshire, 1850-1930*. Concord, NH: New Hampshire Historical Society, 1994.

Merrimack County Registry of Deeds, Concord, NH.

Openo, Woodard D. A Survey of the South Main Street-Water Street Area of Concord, 1979. [On file at the NH Division of Historical Resources].

Taylor, William L. "Concord Gasholder House," Historic American Engineering Record [HAER No. NH-7] (Washington, DC: U.S. Department of the Interior, National Park Service, 1984).

Taylor, William L. "The Concord (New Hampshire) Gasholder: Last Intact Survivor from the Gas-Making Era", *The Journal of the Society for Industrial Archeology*, vol. 10, 1984.

**Surveyor's Evaluation:**

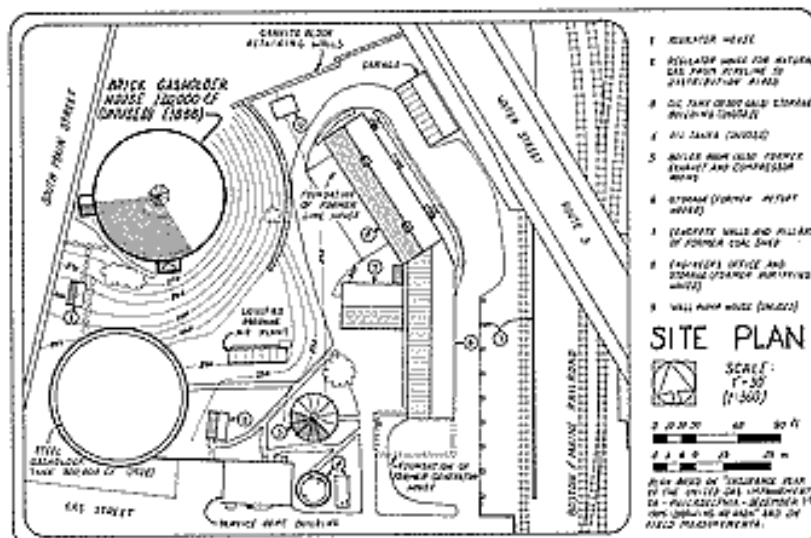
NR listed: individual \_\_\_\_\_  
within district \_\_\_\_\_

Integrity: yes \_\_\_\_\_  
no \_\_\_\_\_

NR eligible: individual \_\_\_\_\_  
within district \_\_\_\_\_  
not eligible \_\_\_\_\_  
more info needed \_\_\_\_\_

NR Criteria: A \_\_\_\_\_  
B \_\_\_\_\_  
C \_\_\_\_\_  
D \_\_\_\_\_  
E \_\_\_\_\_

CONCORD GASLIGHT COMPANY  
GASHOLDER HOUSE : 1888  
CONCORD, NEW HAMPSHIRE



THE COMPANY'S OWNERSHIP ADVISE, IN RESPONSE FROM UNITED FINE, IS THE LAST STRUCTURE OF ITS KIND IN THE UNITED STATES, WILL CHALLENGE ITS ORIGINAL DESIGNER, SIMILAR STRUCTURES WERE A COMMON FEATURE IN THE URBAN DESIGN OF NEW YORK AND NEW YORK CITY. THIS ONE WAS BUILT TO PROTECT THE COMPANY'S OWNERSHIP AND THE NEW DESIGNER, WHEN A NATURAL GAS PIPING TRUCKED THROUGH.

THE LANCHESTER HOUSE AND ONE APPEARED TO BE TYPICAL OF THOSE BUILT IN THE LATE VICTORIAN PERIOD. THE BUILDING WAS THE WORK OF THE COMPANY OF NEW YORK CITY AND PRINCIPAL (CONSTRUCTED MORE THAN FIFTY YEARS AGO) LOCAL NEWSPAPERS IMPLIED THAT SIGNIFICANCE WOULD BECOME MORE OBVIOUS WITH RESEARCH. A CONSIDERATION OF THE SMALL SIGNIFICANCE GIVEN THE LARGE FOOTPRINT OF THE SAME HOUSE IN THE CITY RECORD.

[illegible]

The Wisconsin Am Manufacturing Co (WAMCO) and Co. was abandoned mine and discharges when natural gas, helium and similar fuels were adopted. The United States White, however, provides an excellent example of the importance of the role of the gas manufacturing and distribution process.

[illegible]

THE FIRST NAME, PRESUMED BEHARAL  
SOPHIAN, REPORT, AND PHOTOGRAPH WERE  
RECEIVED UNDER THE SIGNATURE OF AN INDIVIDUAL  
KNOWN AS "BOB" MOORE, AND BY WILLIAM L.  
MILROY, ASSISTANT FOR ADMINISTRATIVE  
STAFFS, PRODUCT DIVISION, THE RESEARCH  
TEAM (EMPLOYED BY WILLIAM L. LOYD,  
FEDERAL BUREAU OF INVESTIGATION, IN WASH.,  
D.C.) IMMEDIATELY CONTACTED AND INFO. BEING  
RECEIVED. SUBSEQUENTLY, CONTACT  
WAS MADE WITH MR. MOORE, C/O LAWRENCE  
DELMONTE, AFTER ADDRESS: 1200 32ND ST.,  
AND JAMES C. WATKINS, 1210 32ND STREET,  
GENERAL INVESTIGATIVE AND ANALYTICAL  
SECTION, TWENTY-ONE, ONE VOLUNTEERS,  
PROVIDED THAT THE INFORMATION WAS  
OBTAINED FROM THE FBI, ASSISTANT  
JULY 1964.

## Site Plan, Gas Works

Source: HAER Report No. NH-7, 1982

Source: HAER Report No. NH-7, 1982

**INDIVIDUAL INVENTORY FORM**

**NHDHR INVENTORY # CON0288**



General view of site looking NW in 1982, prior to demolition of accessory buildings  
HAER NH,7-CON,9C-1

Source: HAER Report, 1982



**INDIVIDUAL INVENTORY FORM**

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1982 Telephoto view of site looking NW prior to demolition of accessory buildings  
HAER NH,7-CON,9C-4

Source: HAER Report, 1982

**INDIVIDUAL INVENTORY FORM**

**NHDHR INVENTORY # CON0288**



Birdseye view (1982) from top of 1922 gasholder of (1 to r) Engineer's Office, (former Purifying House) former Exhaust and Compressor Building and Oil Tank Building.

HAER NH,7-CON,9-1

Source: HAER Report, 1982

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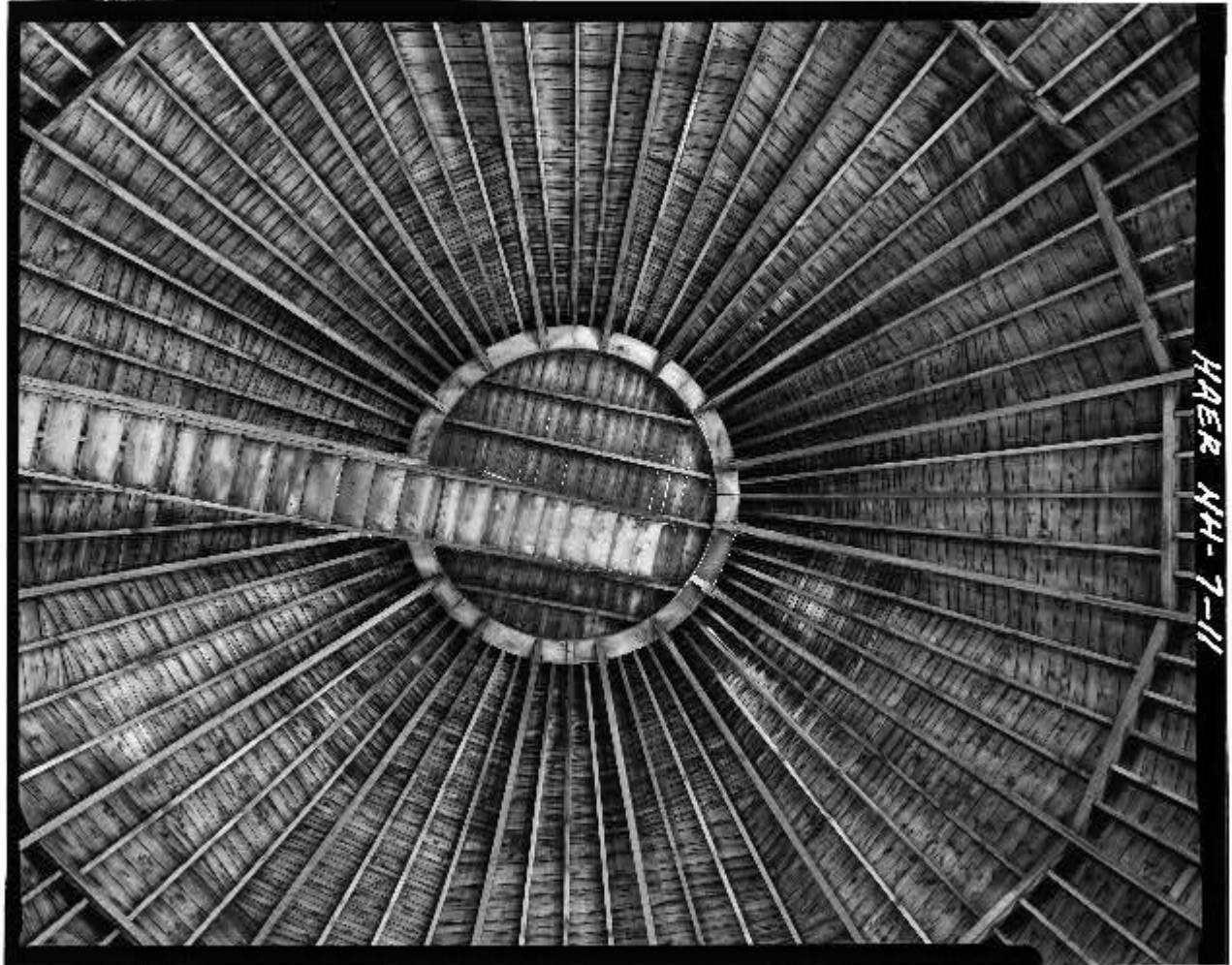
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1982 View of Liquified Propane Air Plant, former Exhaust and Compressor Building and former Purifying Plant in background (all no longer extant)

HAER NH,7-CON,9-2

Source: HAER Report, 1982

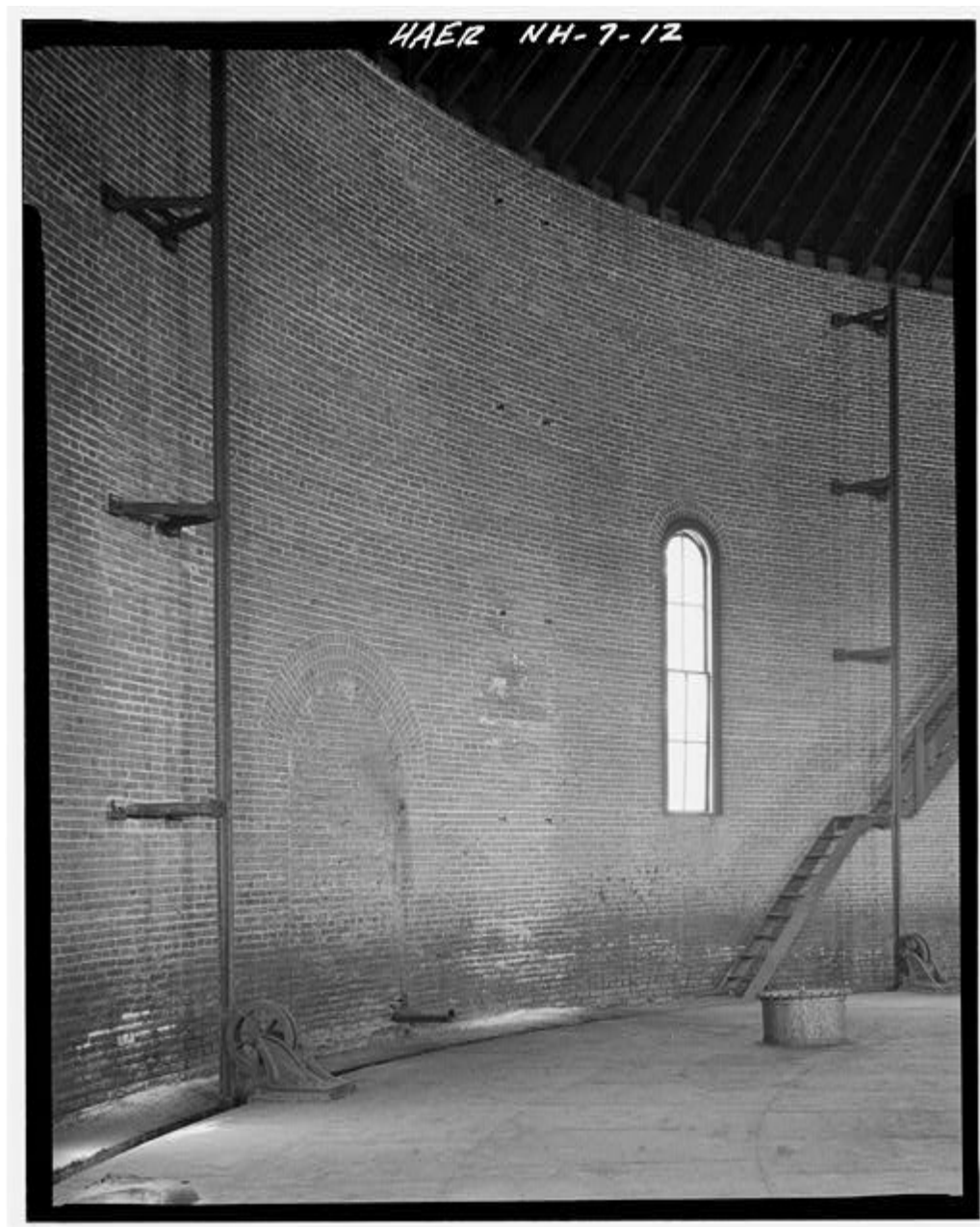


Interior view (1982) of gasholder house roof looking up to cupola.  
HAER NH,7-CON,9C-11

Source: HAER Report, 1982

**INDIVIDUAL INVENTORY FORM**

**NHDHR INVENTORY # CON0288**



Interior view (1982) of Gasholder House showing wall, window, gasholder guide sheaves and stair to cupola.

HAER NH,7-CON,9C-12

Source: HAER Report, 1982



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**NHDHR INVENTORY # CON0288**



Interior view showing top of gasholder tank and inlet cylinder.  
HAER NH,7-CON,9C-15

Source: HAER Report, 1982

**INDIVIDUAL INVENTORY FORM**

**NHDHR INVENTORY # CON0288**

Date photos taken: Feb. 19, 2012



Photo # 2 Description: View from southwest  
Digital file name: CON0288\_2

Direction: NE



Photo # 3 Description: West valve house along S. Main Street  
Digital file name: CON0288\_3

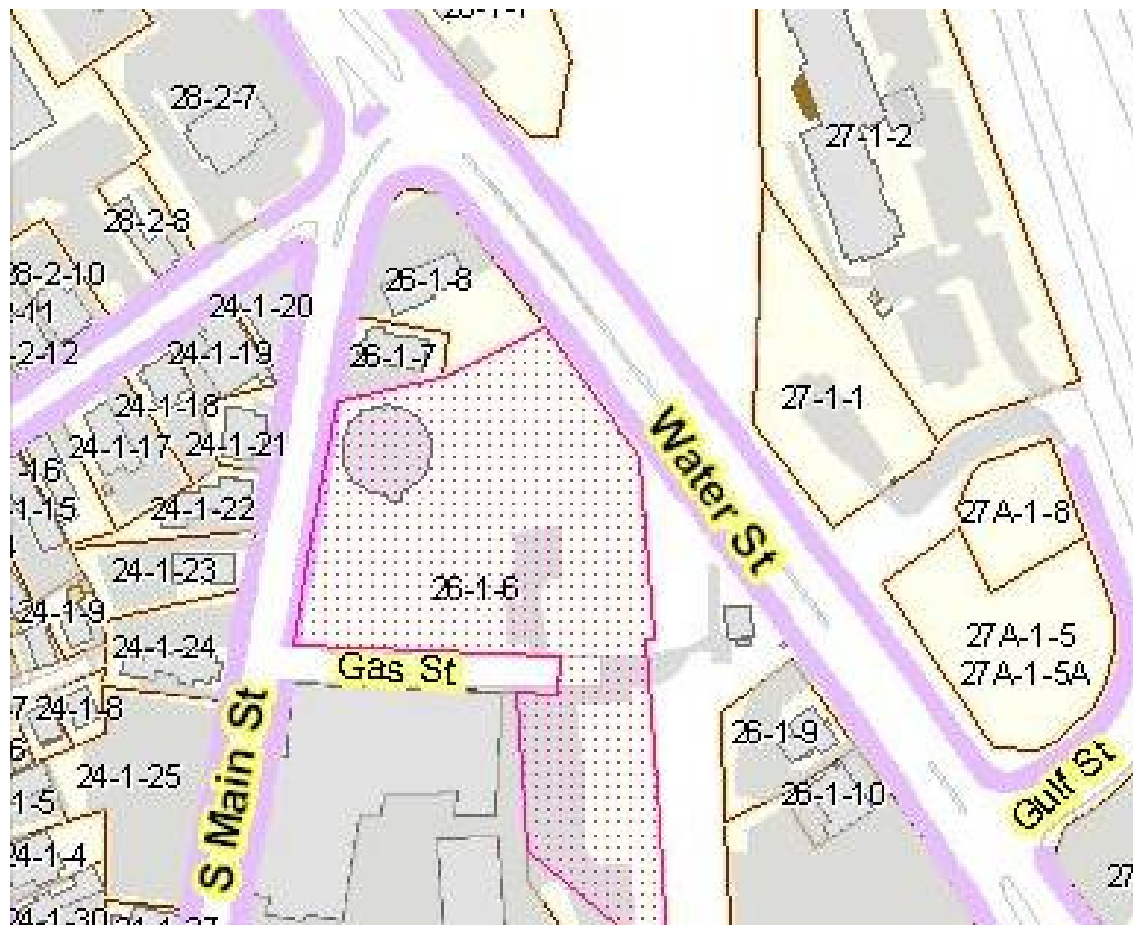
Direction: east



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**NHDHR INVENTORY # CON0288**

PHOTO KEY



I, the undersigned, confirm that the photos in this inventory form have not been digitally manipulated and that they conform to the standards set forth in the NHDHR Photo Policy. These photos were printed using an Epson Stylus Photo R2880 Printer and Epson papers and inks. The digital files are housed at my office in Reading, Massachusetts.

SIGNED: